



City of Wilmington Pedestrian Safety Study

Wilmington Pedestrian Audit

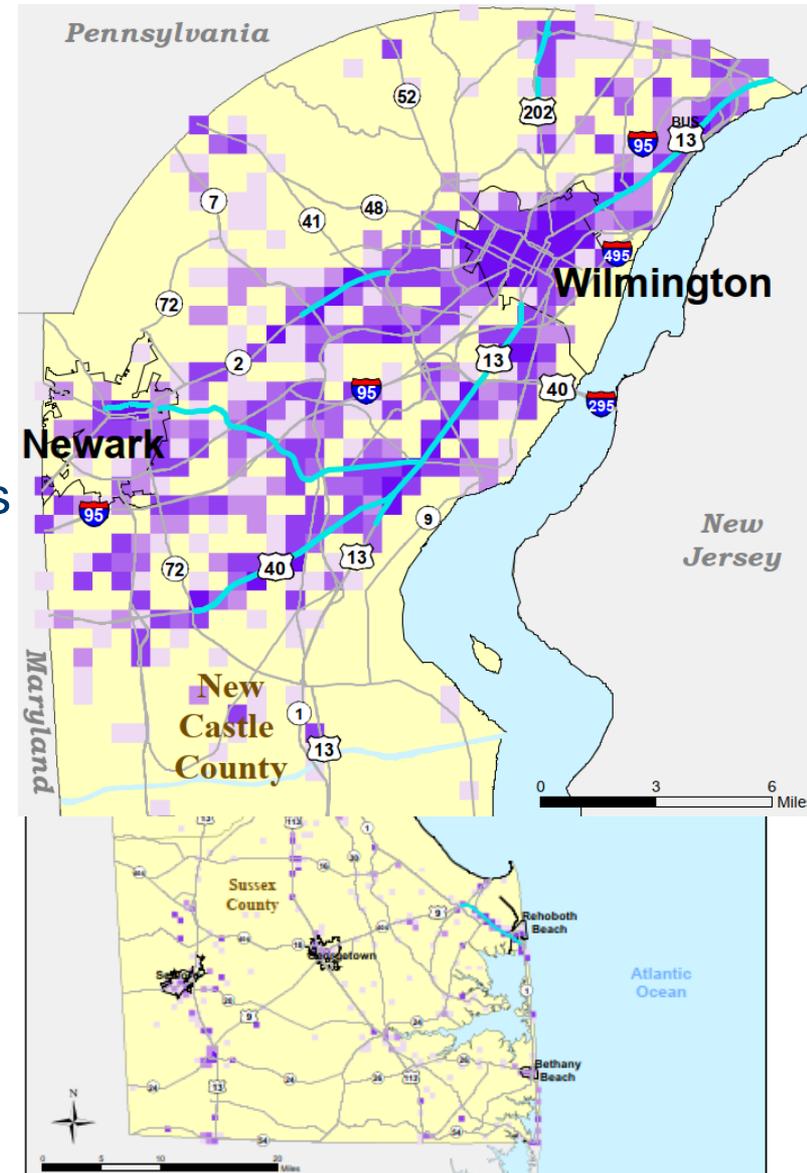
Walnut Street: Front Street to 16th Street

July 14, 2023



Purpose of Study

- Why are we here?
 - Improve pedestrian safety within City
 - Improve walking as a mode of transportation
 - Access to jobs
 - Access to recreation
 - Access to economic improvements
 - Major corridors surrounding Wilmington have been studied
 - US 13
 - SR 141
 - US 202
 - Philadelphia Pike
 - Site selection conducted in 2019 pinpoints Wilmington as next logical study location



- Review city-wide pedestrian crash history
- Identify critical corridors and intersections
- Convene stakeholder group
- **Pedestrian safety audits of selected critical corridors and intersections**
- Systemic pedestrian treatments at other locations

Stakeholder Group

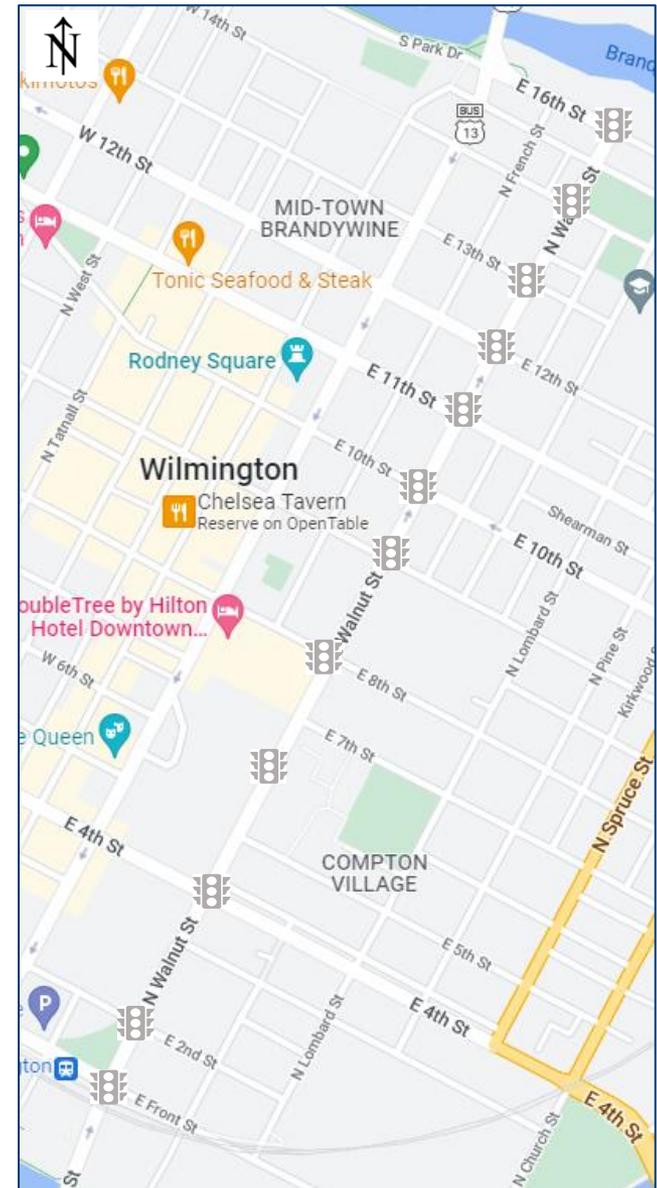
- Peter Haag, DelDOT
- Sonya LaGrand, DelDOT
- Diane Gunn, Century, DelDOT Wilmington Projects Manager
- Paul Moser, DelDOT
- Meaghan Barna, DelDOT
- Aimee String, DelDOT
- Catherine Smith, DTC
- John Calnan, DTC
- Capt. Rodney Layfield, State Police
- Lt. Lance Skinner, State Police
- Richard Klepner, Office of Highway Safety
- Jackie McDermott, Office of Highway Safety
- Stephen Weber, City of Wilmington
- Tom Ogden, City of Wilmington
- Jeff Starkey, City of Wilmington
- Kelly Williams, City of Wilmington
- Sgt. Pete Leccia, Wilmington Police
- Dave Gula, WILMAPCO
- Federal Highway Administration

WALNUT STREET

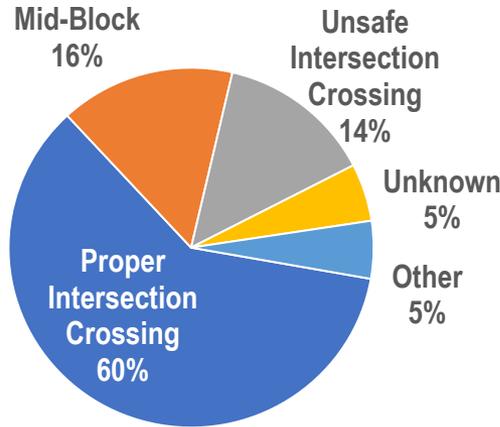
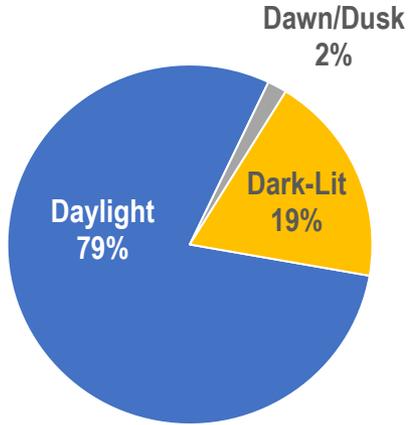
FRONT STREET TO 16TH STREET

Walnut Street Corridor

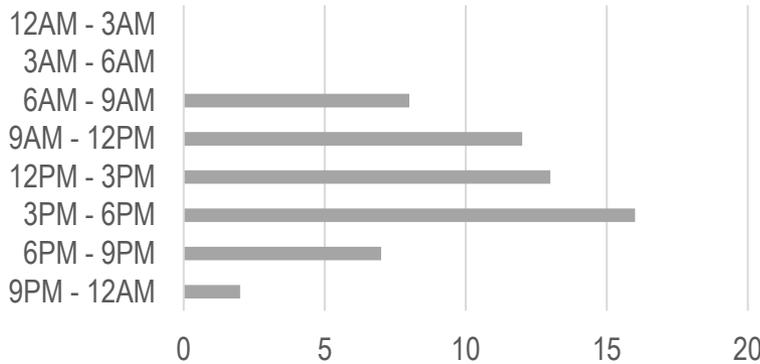
- 0.95-mile Urban Principal Arterial
- 2019 AADT 16,000 – 25,000
- One-way roadway with NB traffic
- Varies two – four through lanes
 - Lane width is predominantly 11 ft
- Curb-to-curb distances vary between 38 and 56 feet throughout corridor
- Additional parking lane from 8th Street to 16th Street
- Turn lanes at major intersections
- Sidewalks and lighting present
- 25-MPH speed limit
- School Zone with 20-MPH speed limit from 11th Street to 13th Street
- 12 signalized intersections and 5 unsignalized intersections
- Numerous unsignalized mid-block parking lots and driveways



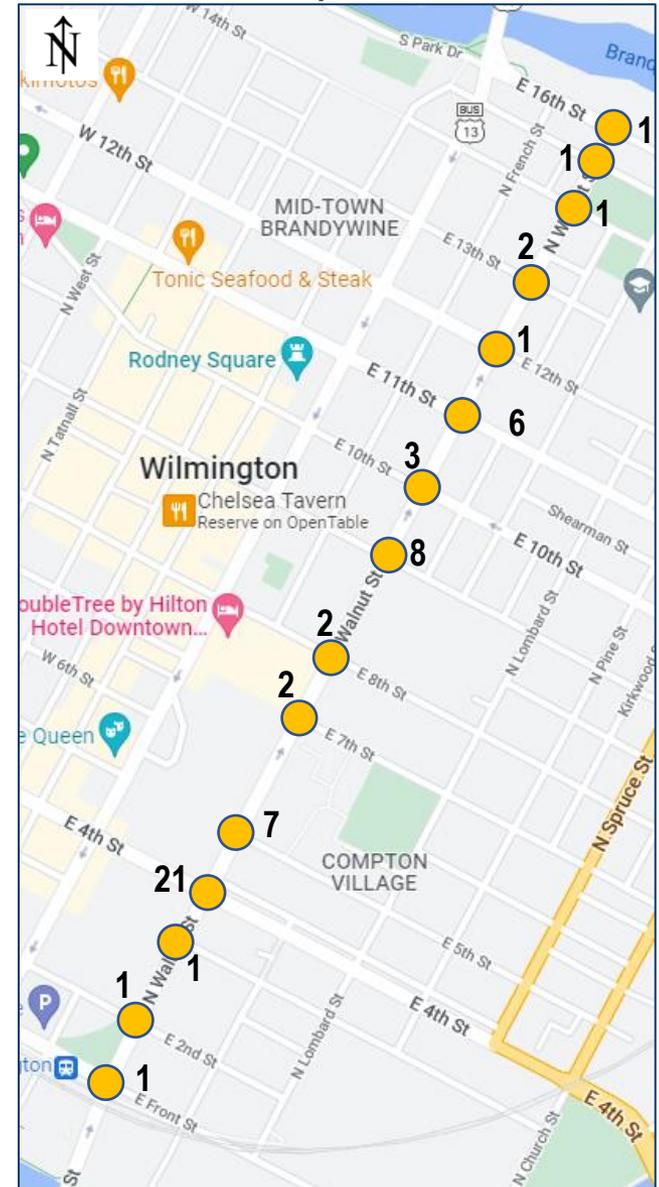
58 Crashes (2007 – 2020)



Time of Day Crashes



of crashes per intersection



Walnut Street, 3rd Street to 16th Street (DelDOT Project Development)

- Currently in design
- Planned road diet, reducing the roadway cross-section of Walnut Street
 - 2nd Street to 8th Street – 3 lanes with a bike lane and parking lane/bus pull-off
 - 8th Street to 16th Street – 2 lanes with a bike lane and parking lane/bus pull-off
 - Sidewalk improvements, curb bumpouts, and pedestrian signal upgrades
- Virtual public workshop held February 8, 2022
- Construction in 2025

4th Street, Walnut Street to Adams Street (DeIDOT Project Development)

- Currently in design
- Planned road diet, reducing the roadway cross-section of 4th Street
 - Monroe Street to N. Market Street – 1 lane in each direction, center turn lanes where feasible, bike lane and on-street parking on both sides
 - Adams Street to Monroe Street and N. Market Street to Walnut Street – 2 lanes in each direction, bike lanes on both sides of roadway
- Public meeting held May 3, 2022
- Construction in 2026

Wilmington Transit Corridors (DeIDOT Project Development)

- Currently in construction
- Pedestrian and transit improvements to the 8th Street and 9th Street corridors
- N. Walnut Street at 8th Street – curb ramp and sidewalk improvements
- Construction to be completed by Fall 2023

Wilmington Road Diet / Reconfigurations *(DeIDOT Project Development / City of Wilmington)*

- Road diet / reconfiguration under consideration for Walnut Street between A Street and 2nd Street
- No current timelines for design or construction

Lancaster Avenue 2018 HEP Site E *(DeIDOT Traffic)*

- Signal improvements at Front Street and Walnut Street
 - Dynamic all-red protection
 - Near-side post mounted signal heads
 - Accessible pedestrian signals
- Construction is scheduled for FY2023

Wilmington School Zones *(DeIDOT Traffic)*

- Great Oaks Charter School / Kuumba Academy proposed improvements submitted January 31, 2022

Lighting Assessment

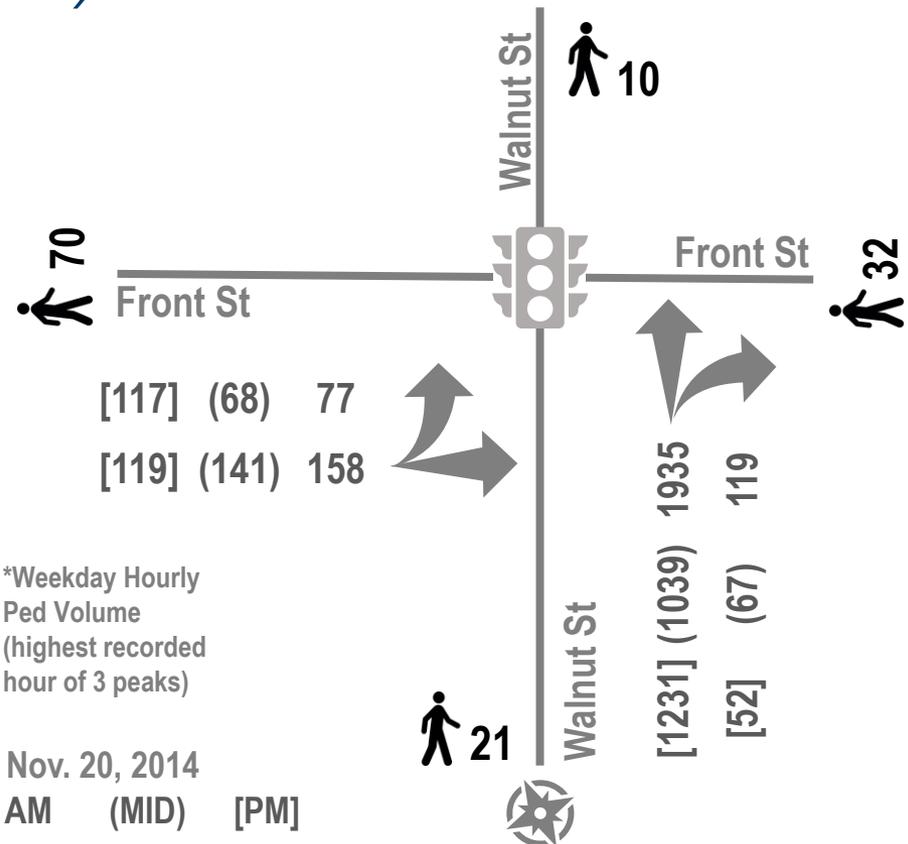
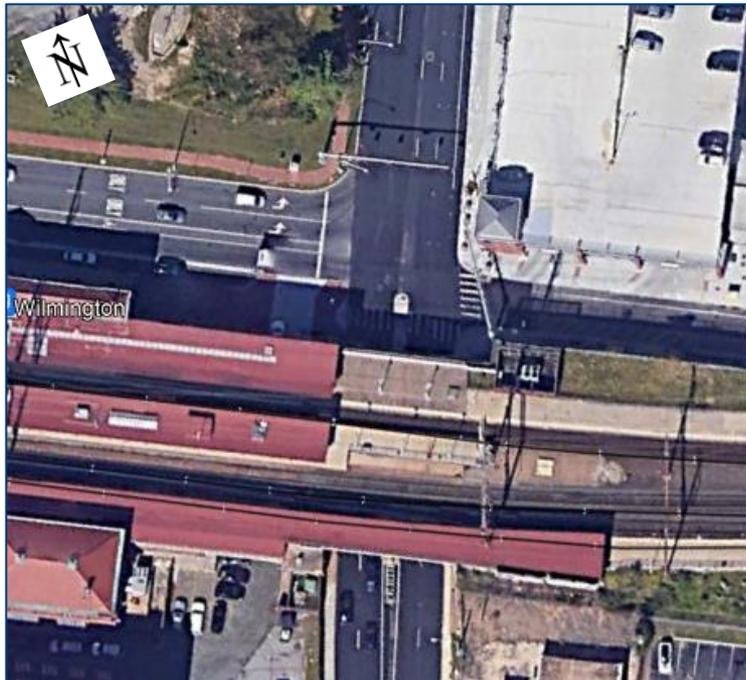
- Qualitative driving assessment
- Streetlamps and LED luminaires are common
- Midblock coverage adequate, except between 8th Street and 13th Street
- Lighting deficient at 5 intersections:
 - 8th Street – East leg
 - 9th Street – East and West legs
 - 10th Street – East and West legs
 - 12th Street – East leg
 - 13th Street – West leg



SIGNALIZED INTERSECTIONS

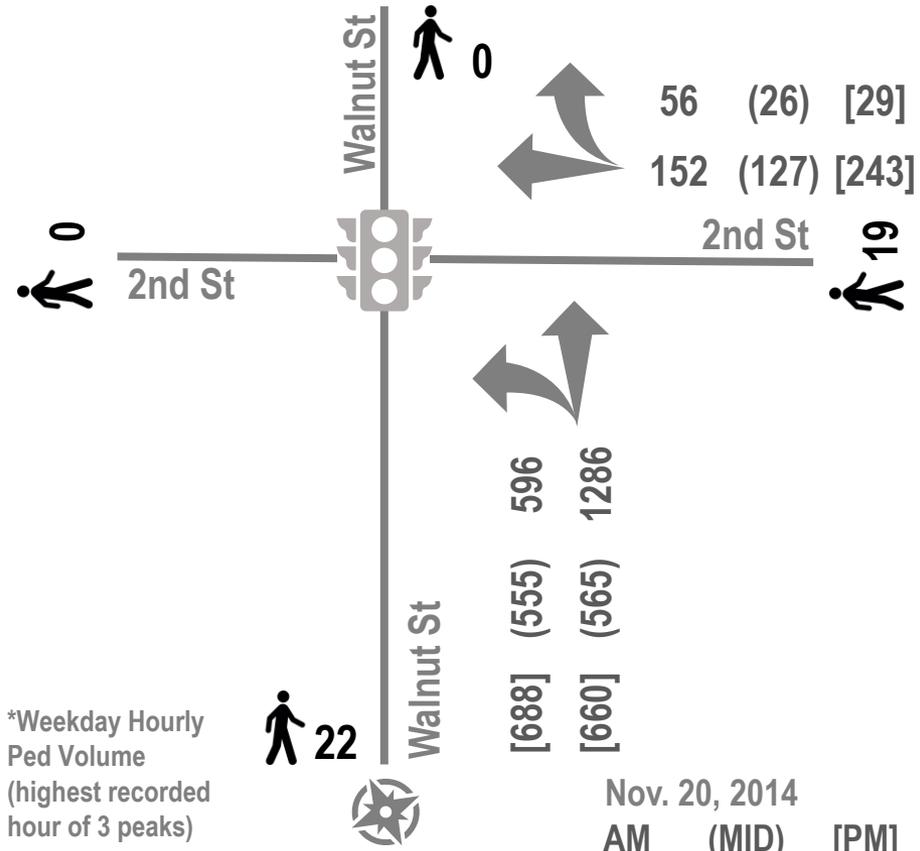
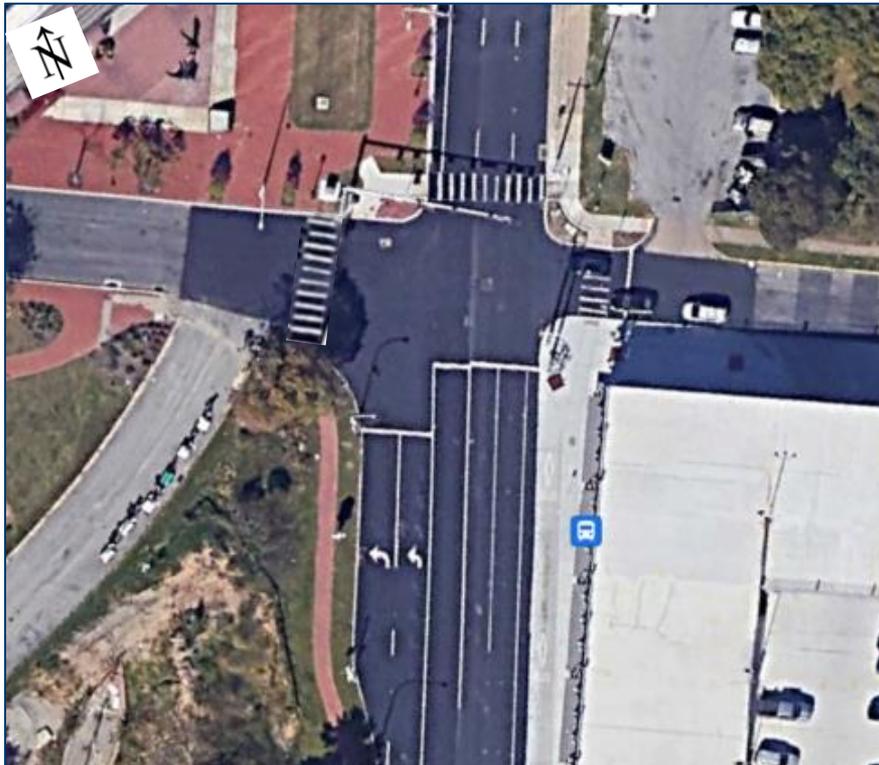
Walnut Street at Front Street

- **One crash** involving a vehicle running a red light and striking a pedestrian on the sidewalk
- No existing pedestrian signals on the east leg crossing NB and SB (covered under HEP Site E improvements)
- No existing crosswalks on the north and west legs (covered under HEP Site E improvements)



Walnut Street at 2nd Street

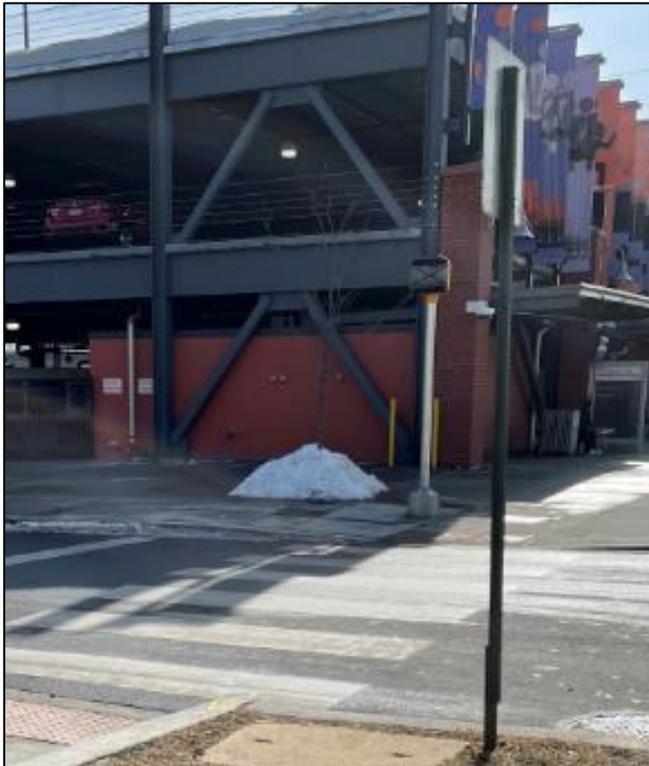
- Zero pedestrian crashes
- One vehicle crash involved a vehicle avoiding a midblock pedestrian and getting rear ended
- No existing crosswalk on the south leg
- Midblock pedestrian observed south of the intersection



Walnut Street: Front Street to 16th Street

Walnut Street at 2nd Street

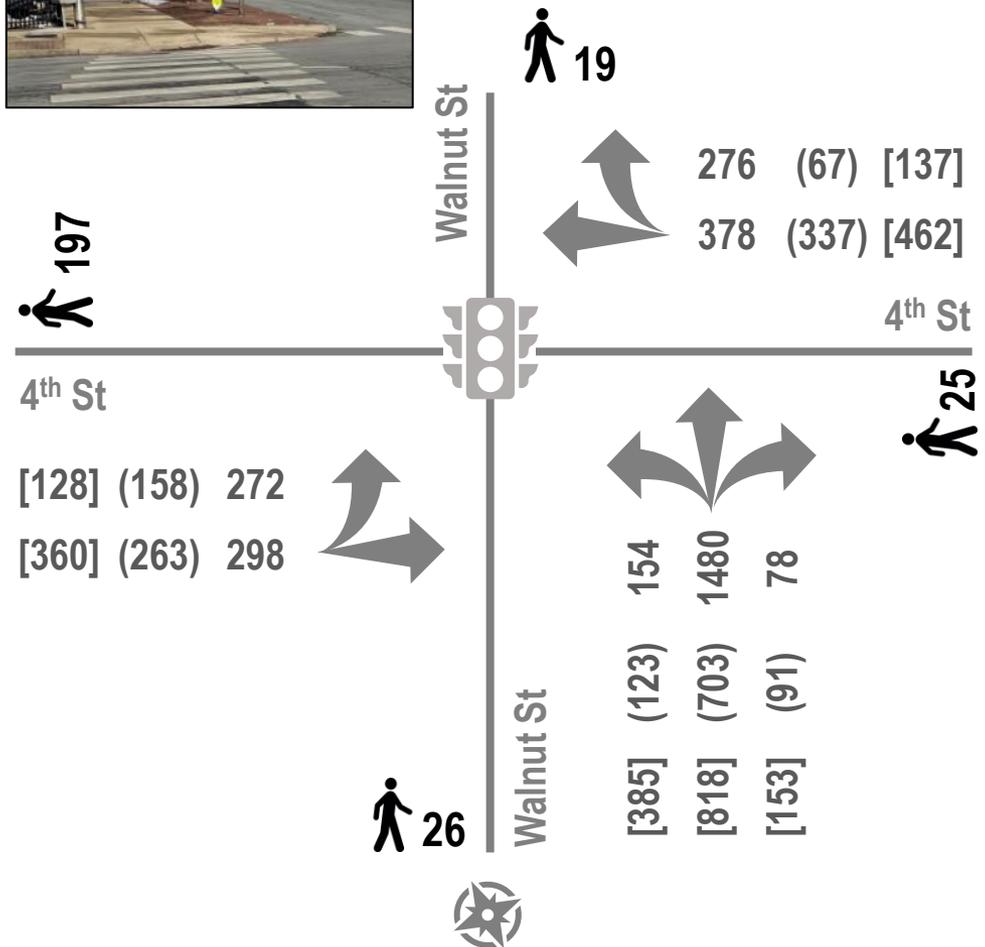
- Existing pedestrian signals on the east and west legs crossing NB and SB are covered
- NBL green arrow concurrent with west leg pedestrian movement
- NBL and WBR turn on red prohibited



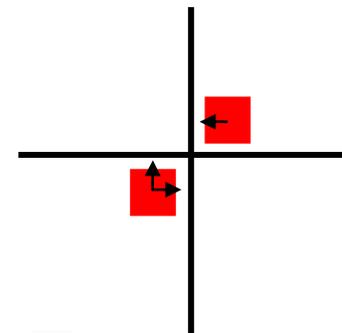
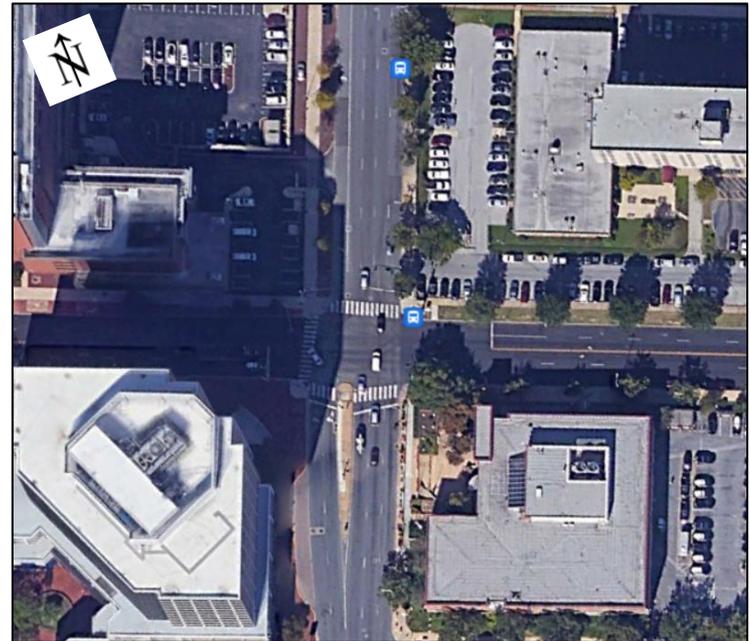
Walnut Street at 4th Street

21 Crashes

- 15 crashes involving left-turning vehicles striking pedestrians in the crosswalk (14 NB, 1 EB)
- 2 pedestrians crossed against the signal and were struck
- 2 NB vehicles failed to stop and struck pedestrians in the crosswalk
- 1 NB RTOR struck a pedestrian in the crosswalk
- 1 WB vehicle reversed into pedestrians in the crosswalk

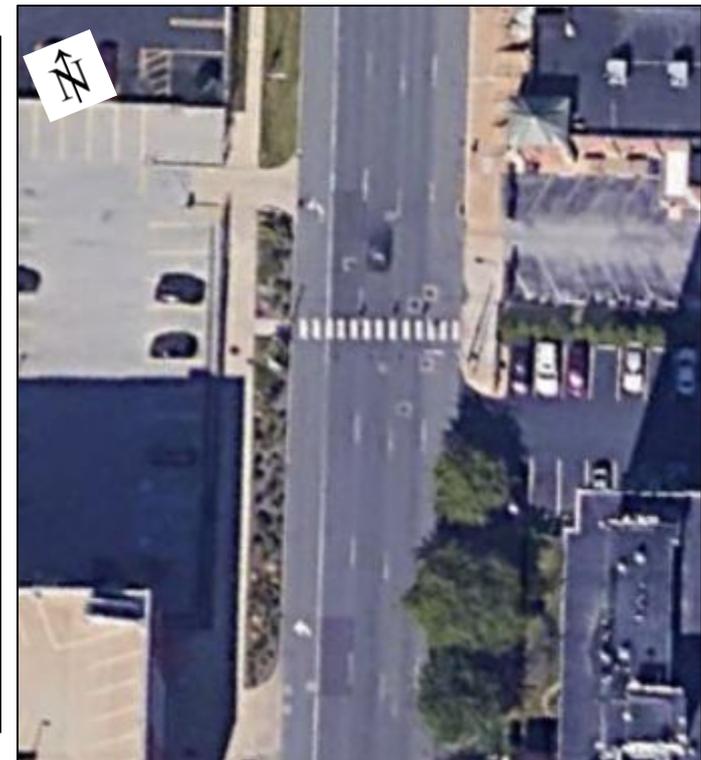


- Observed pedestrians crossing against the signal on the north and south legs
- Observed pedestrians crossing diagonally
- Pedestrian crossing on south leg remains in Don't Walk when the EBL movement is on
- Three existing ped heads have no countdowns



 *Indicates no countdown

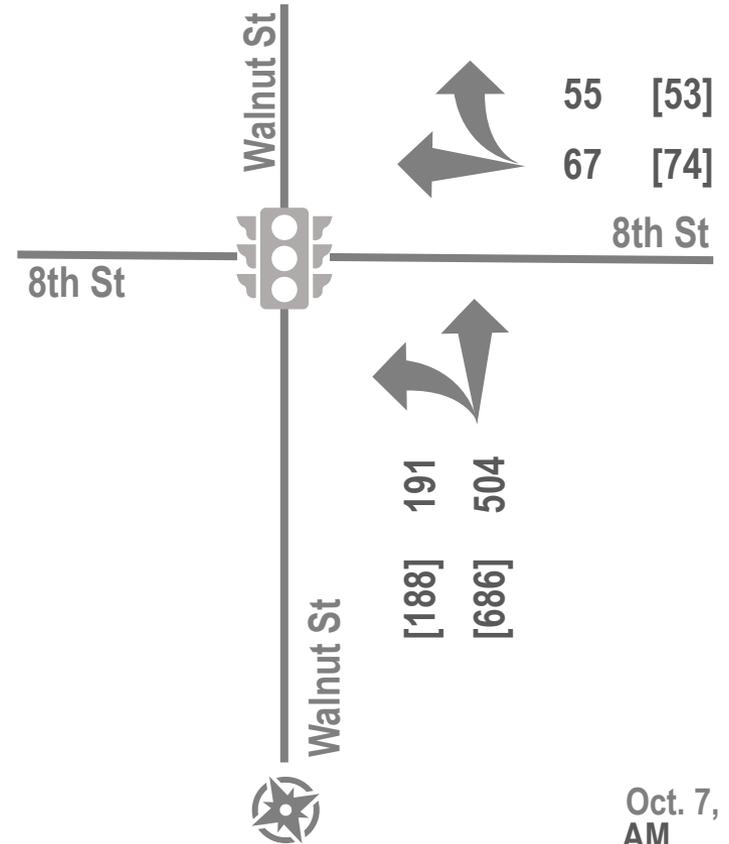
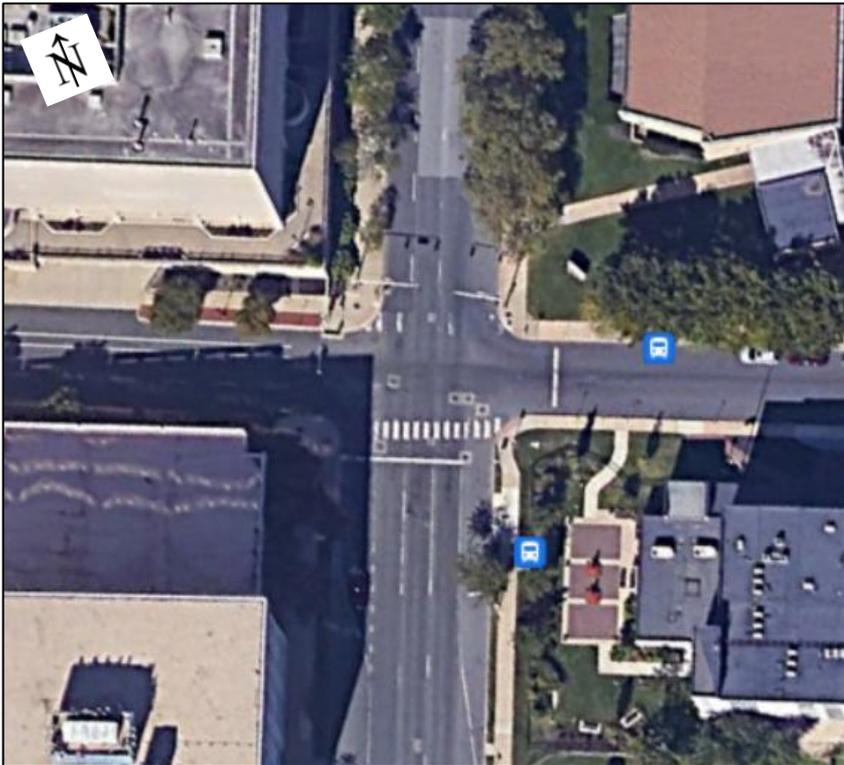
- Zero crashes
- Pedestrian signal is push button activated
- No stop line on Walnut Street



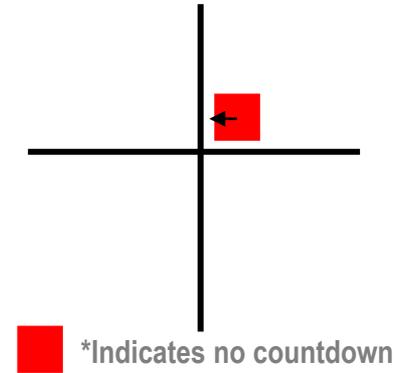
Walnut Street: Front Street to 16th Street

2 crashes

- One pedestrian crossed against the signal in front of a NB vehicle and was struck
- An EMS reversed into a pedestrian midblock

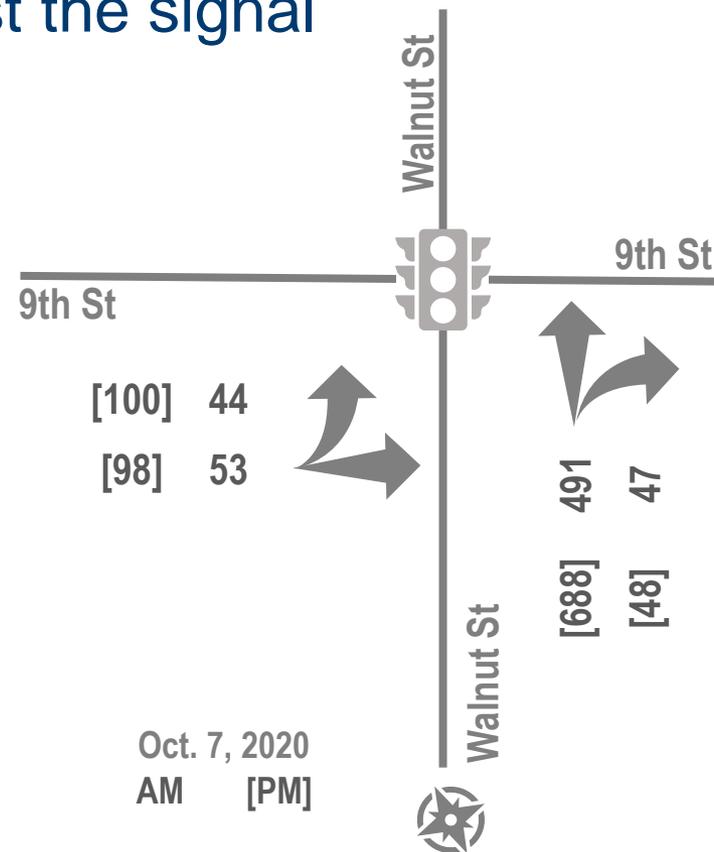
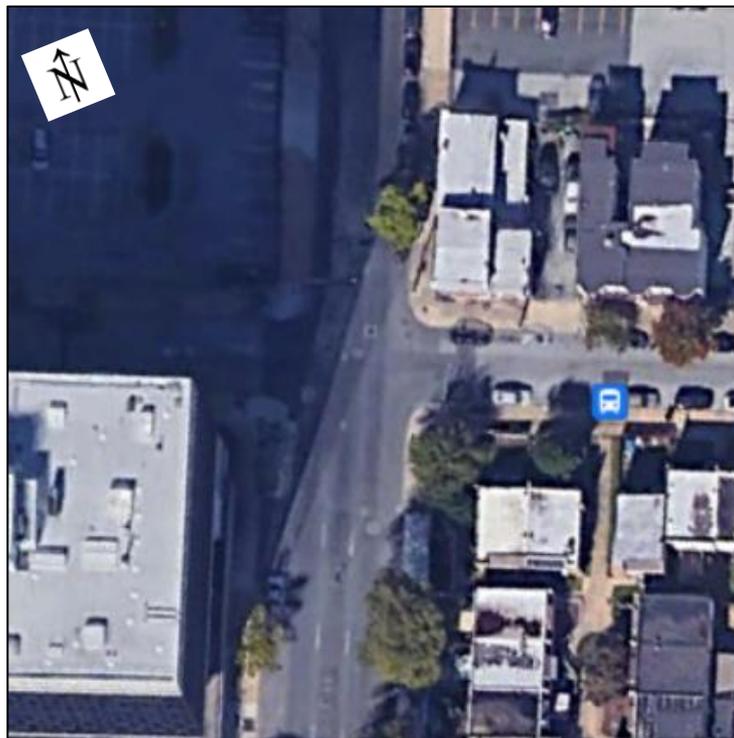


- Existing crosswalks on the north and south legs are faded
- On the east and west legs, there are pedestrian signals and no marked crosswalks
- One existing ped head does not have countdown
- Midblock pedestrian observed north of the intersection



8 crashes

- 7 crashes involved EBL vehicles striking a pedestrian in the crosswalk (2 pedestrians crossed against the signal)
- 1 crash involved a NB vehicle striking a pedestrian in the crosswalk crossing against the signal

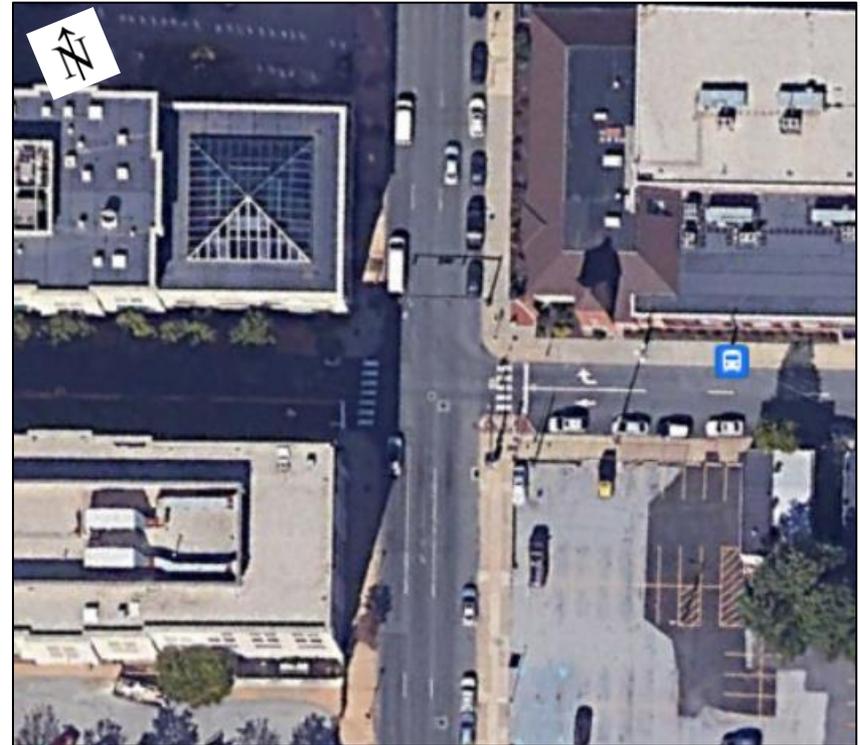


- There were observed pedestrians but no marked crosswalks on the east and west legs
- Observed a bicyclist crossing against the signal on the north leg
- The signal pole is leaning on the SE corner of the intersection

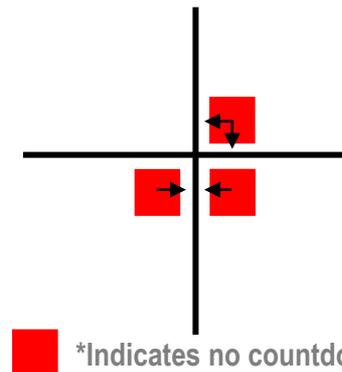


3 crashes

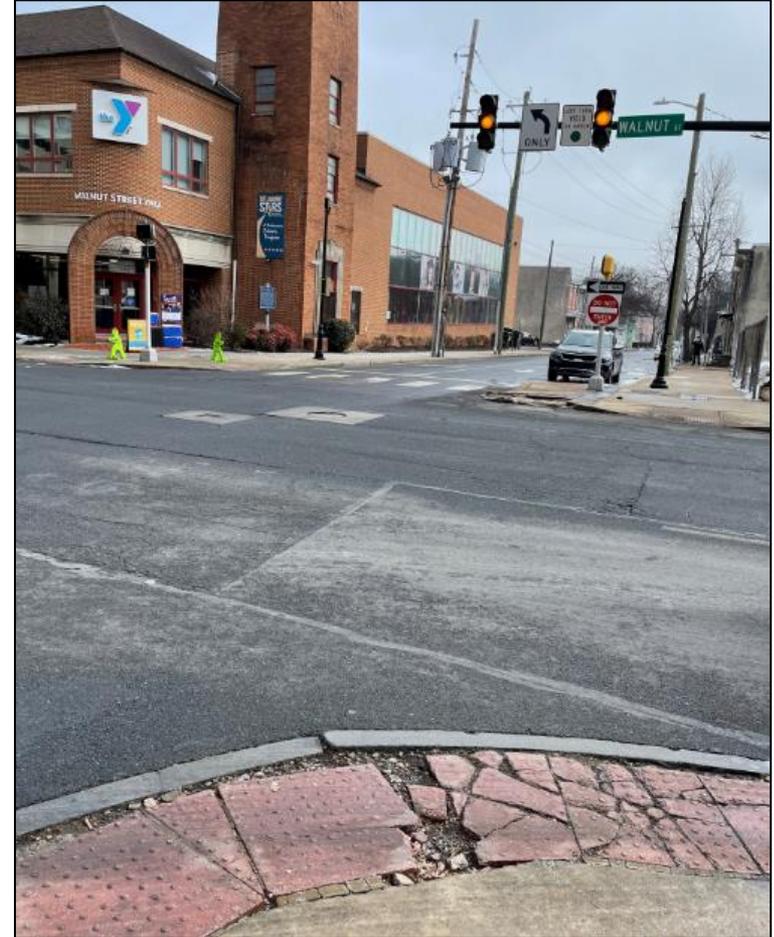
- 2 crashes involved pedestrians walking around objects and struck by NB vehicles
- 1 crash involved an EBL vehicle striking a pedestrian in the crosswalk



- There are four existing ped heads with no countdowns

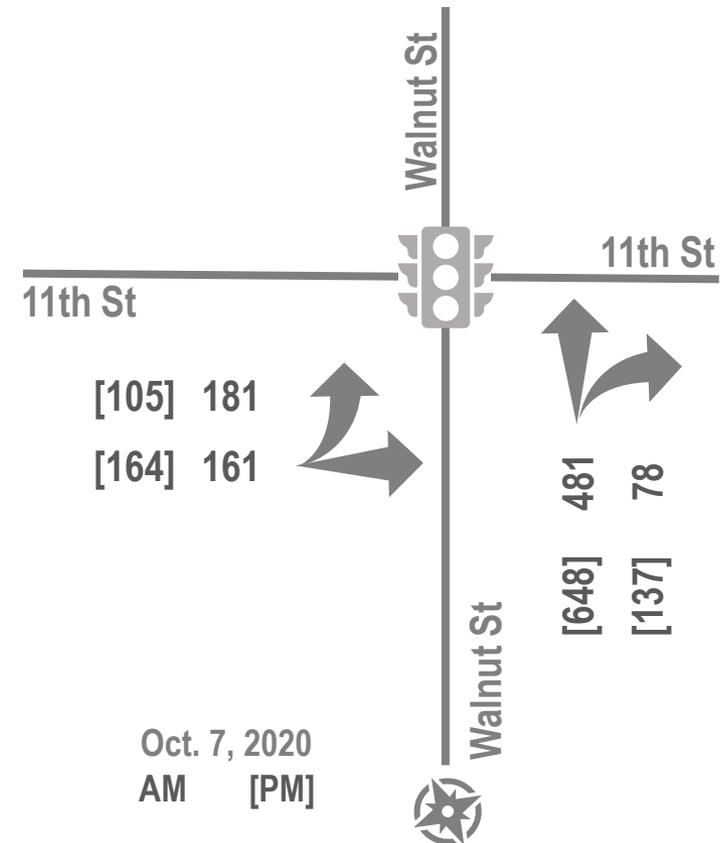


- On the NE corner is the Walnut Street YMCA with pedestrian activity
- On the north and south legs, there are pedestrian signals and no marked crosswalks
- On the SW and SE corners, there is inadequate sidewalk domes and curbs
- WBR turn on red prohibited

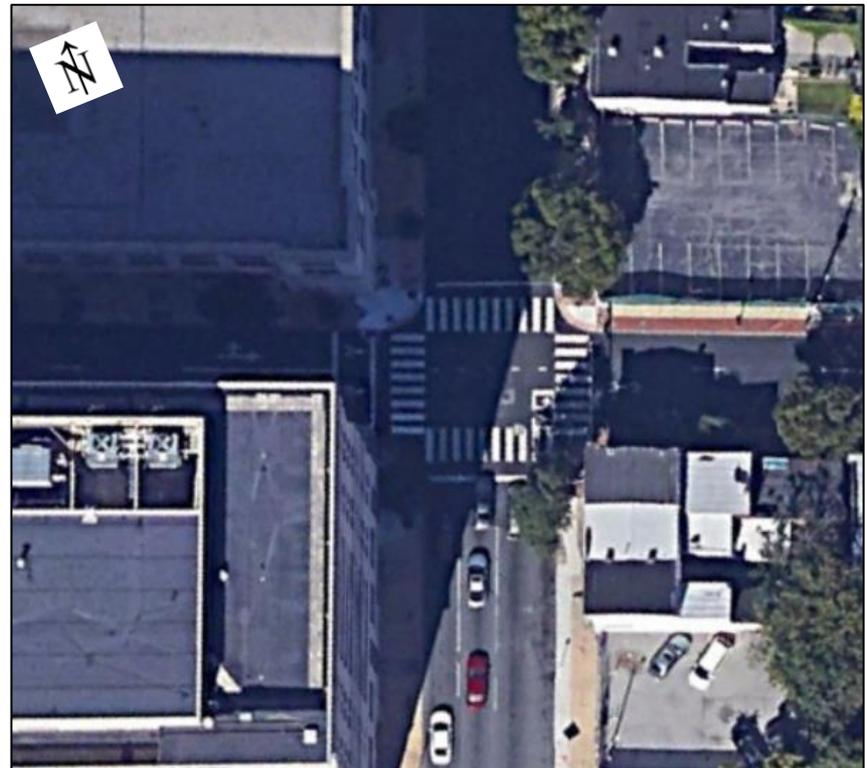
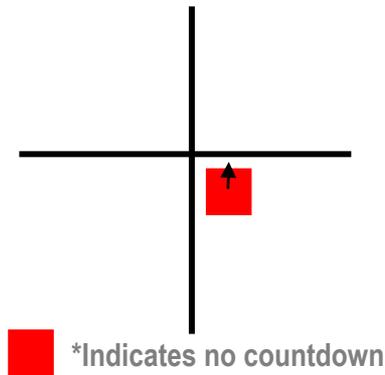


6 crashes

- 2 crashes involved EBL vehicles striking a pedestrian in the crosswalk
- 2 crashes involved pedestrians crossing against the signal and struck by NB vehicles
- 1 crash involved a NBR vehicle striking a pedestrian in the crosswalk
- 1 pedestrian was struck on the sidewalk by debris from a vehicle crash

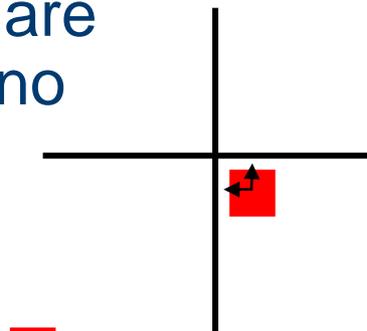
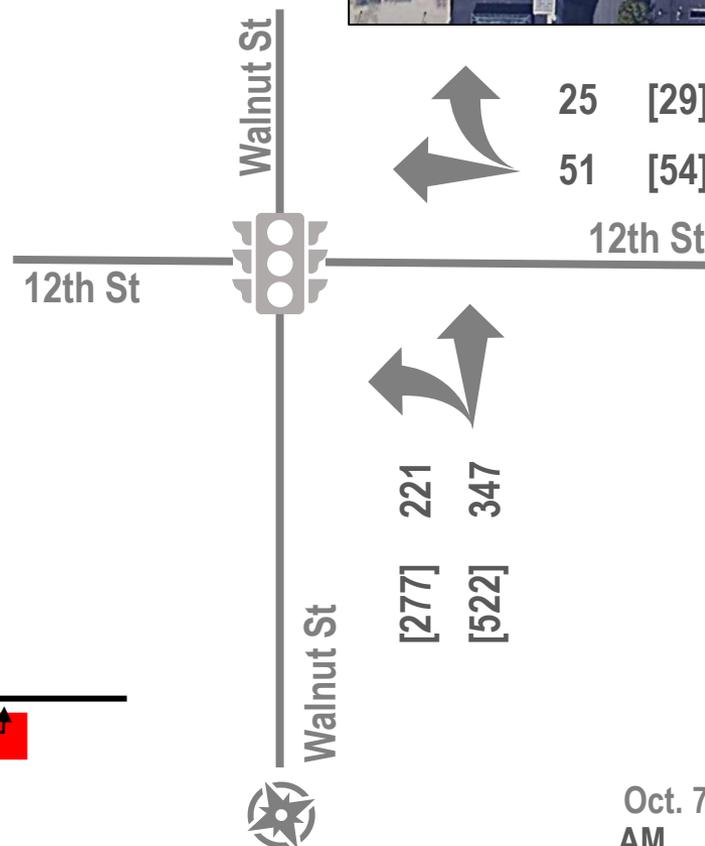
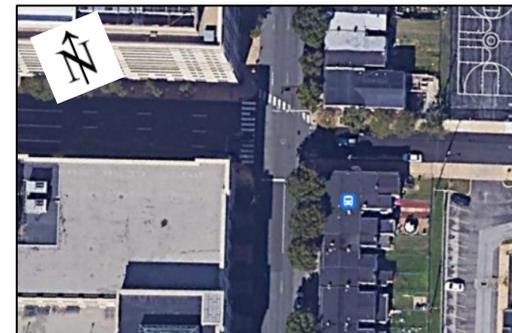


- The pedestrian signals to cross the north leg do not change to WALK
- There is one existing ped head with no countdown
- NBR turn on red prohibited



Walnut Street at 12th Street

- **One crash** involving an EB vehicle leaving the parking garage and striking a bicyclist
- The north and west leg crosswalks are faded
- Observed construction on the SW and NW corners to repair sidewalk domes
- There are two existing ped heads with no countdowns
- On the south leg, there are pedestrian signals and no marked crosswalk

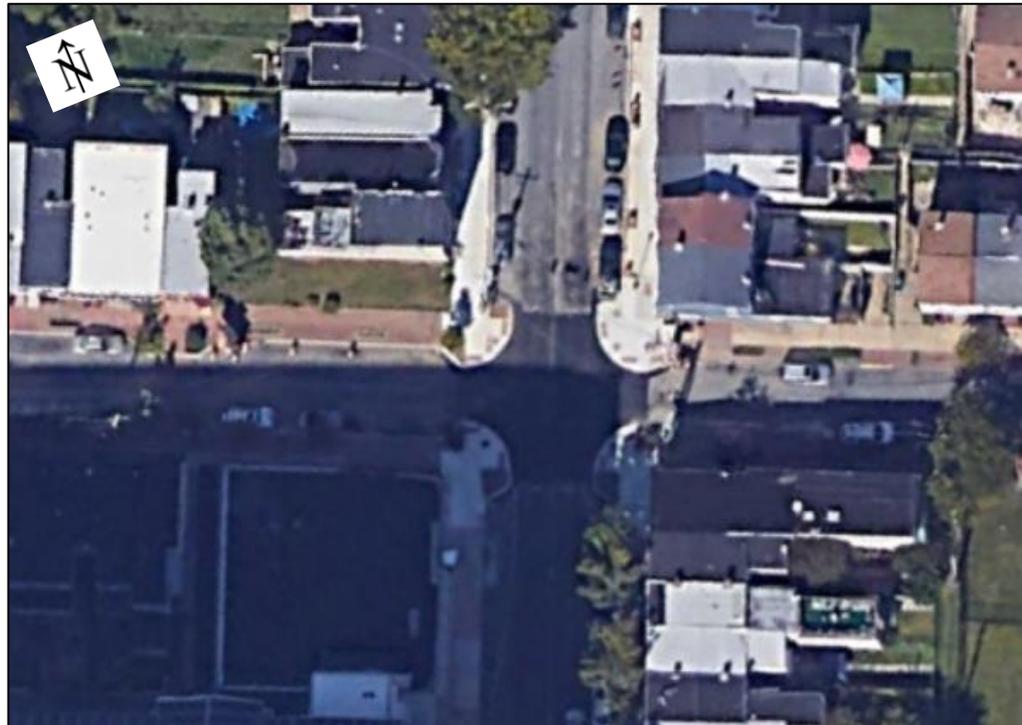


*Indicates no countdown

Oct. 7, 2020
AM [PM]

2 crashes

- One crash involving a pedestrian crossing midblock in front of a NB vehicle
- One crash involving an EBL vehicle striking a pedestrian in the crosswalk



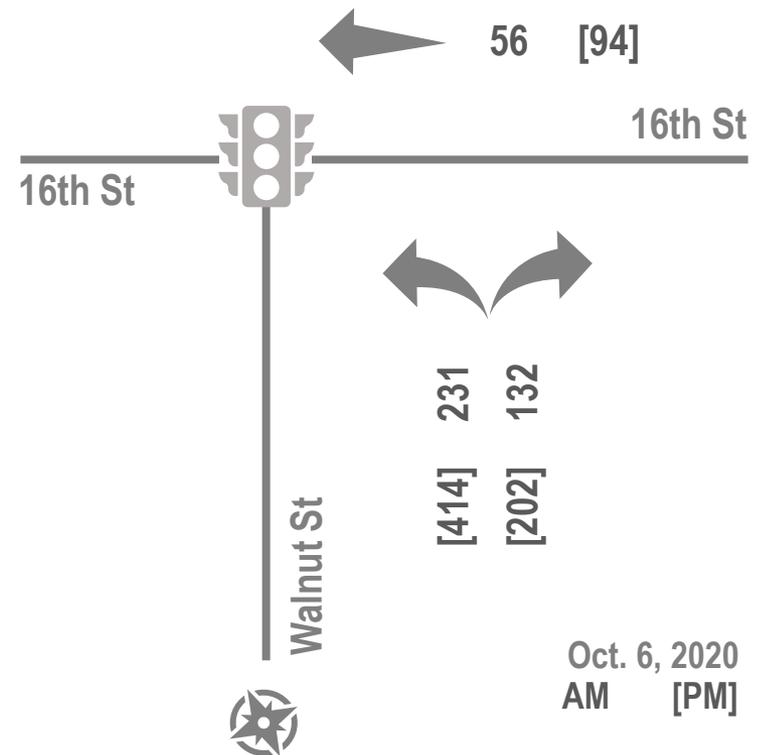
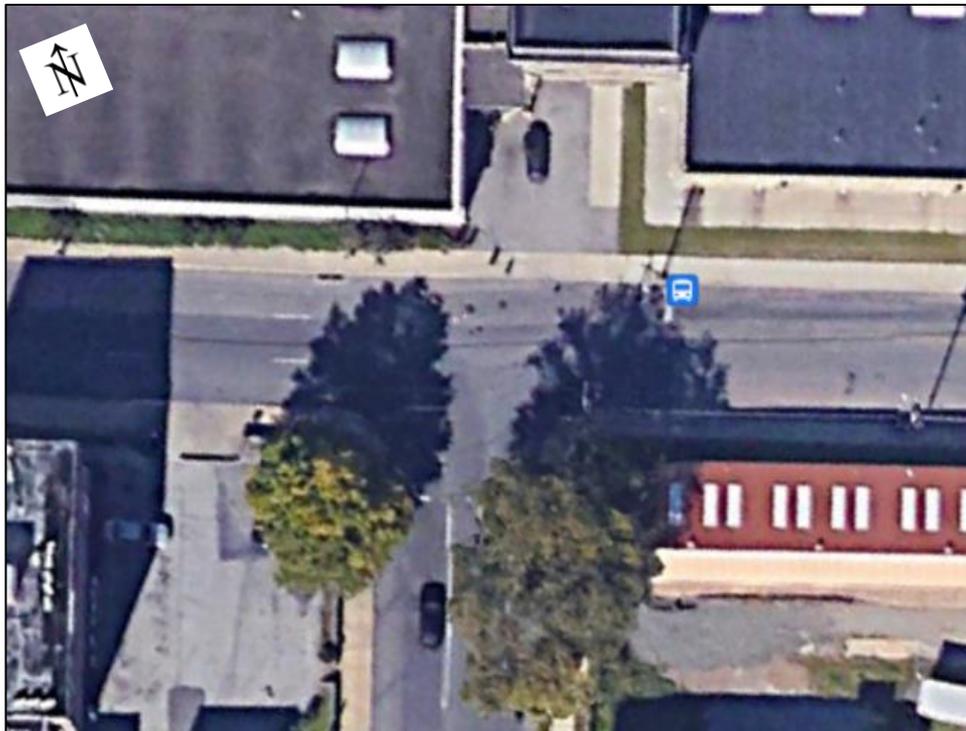
Walnut Street at 14th Street

- **One crash** involving a pedestrian crossing midblock in front of a NB vehicle
- On the east, west, and south legs, there are marked crosswalks and no pedestrian signals



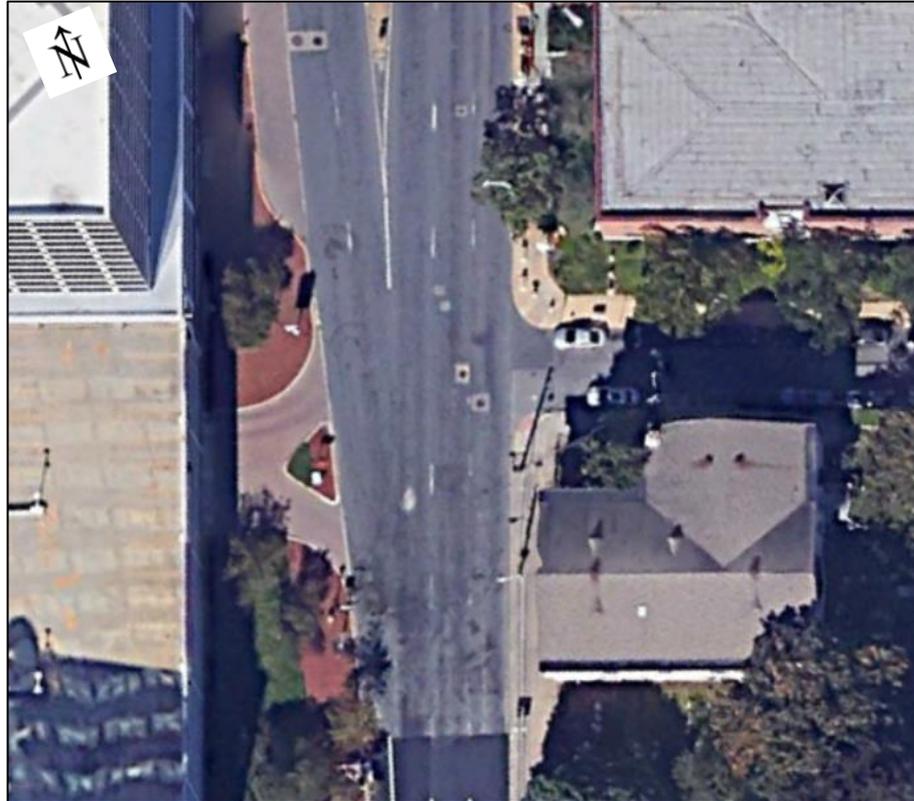
Walnut Street at 16th Street

- **One crash** involving a NB school bus striking a pedestrian (unknown details)
- No existing crosswalks or pedestrian signals



UNSIGNALIZED INTERSECTIONS

- **One crash** involving a WBR vehicle turning out of a parking lot and striking a pedestrian
- No existing marked crosswalks



7 crashes

- 3 crashes involving WB vehicles striking pedestrians in the crosswalk
- 1 crash involving a NB vehicle striking a pedestrian in the crosswalk
- 1 crash involving a NB vehicle reversing into a pedestrian
- 1 crash involving a WBR vehicle turning out of a midblock parking lot and striking a pedestrian
- 1 crash involving a pedestrian crossing midblock in front of a NB vehicle

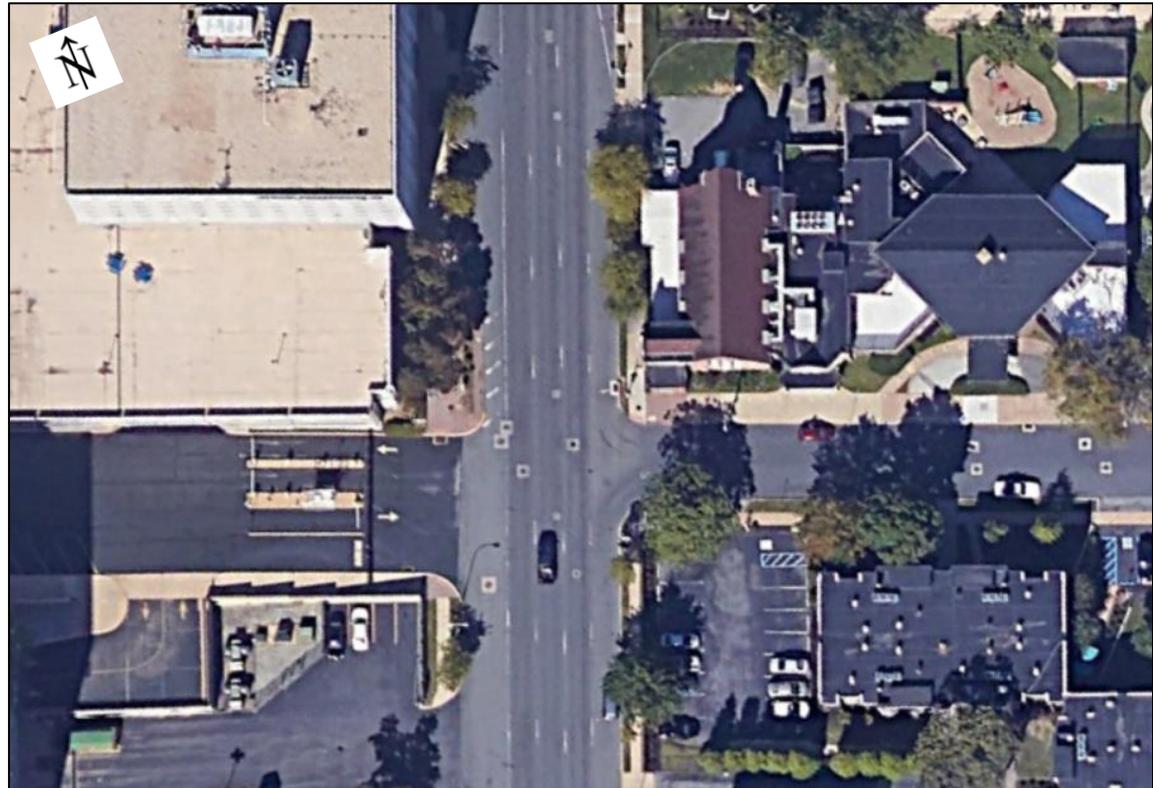
- The north and east leg crosswalks are faded



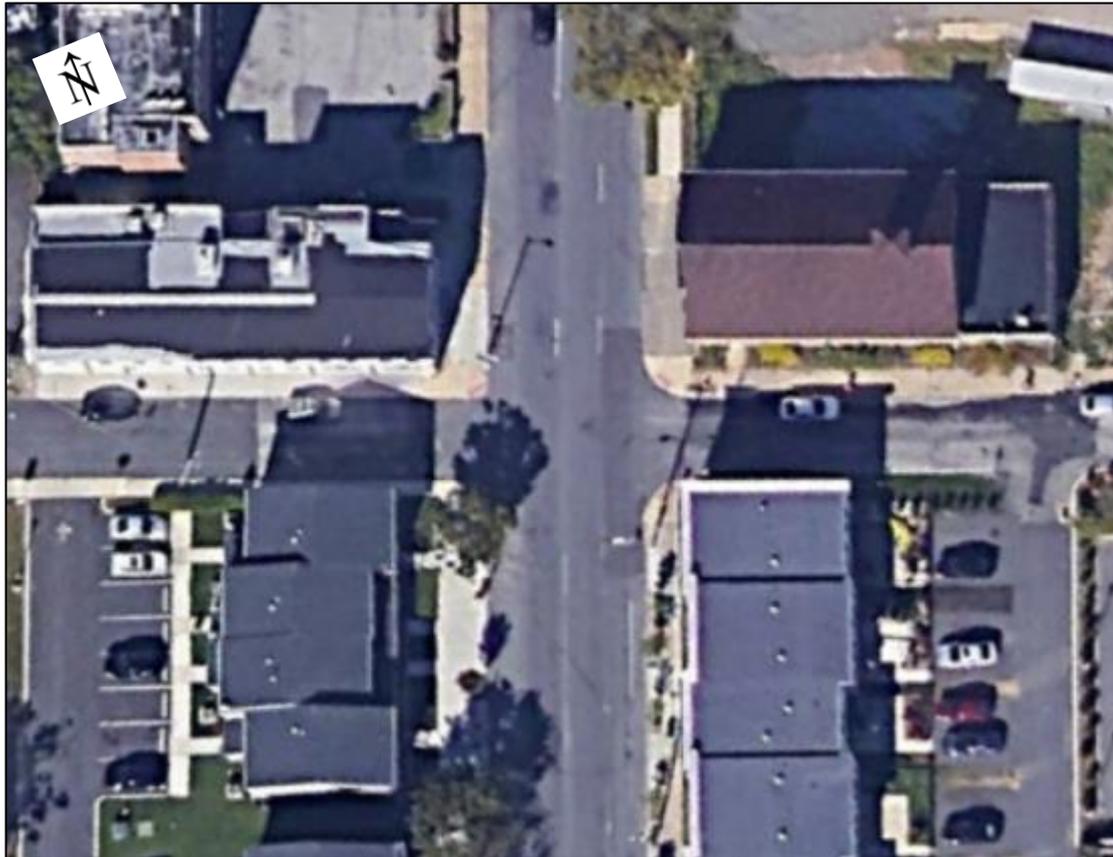
2 crashes

- 1 crash involving a WBR vehicle turning out of a parking lot and striking a pedestrian
- 1 crash involving a reversing vehicle striking a pedestrian

- No existing marked crosswalks



- **One crash** involving a pedestrian crossing midblock in front of a NB vehicle
- No existing marked crosswalks



POTENTIAL RECOMMENDATIONS AND NEXT STEPS

- Refresh faded crosswalks
 - Walnut Street at 8th Street north leg
 - Walnut Street at 12th Street north and east legs
- Install missing crosswalks
 - Walnut Street at 8th Street east and west legs
 - Walnut Street at 9th Street east and west legs
 - Walnut Street at 10th Street north and south legs
 - Walnut Street at 12th Street south leg
 - Walnut Street at 16th Street south leg
- Install missing pedestrian signals
 - Walnut Street at Front Street east leg (*in construction*)
 - Walnut Street at 14th Street east, west, and south legs
 - Walnut Street at 16th Street south leg

- Upgrade existing pedestrian heads with no countdowns to include countdowns where missing
 - Walnut Street at 4th Street (3)
 - Walnut Street at 8th Street (1)
 - Walnut Street at 10th Street (4)
 - Walnut Street at 11th Street (1)
 - Walnut Street at 12th Street (2)
- Remove existing crosswalk across Walnut Street at 5th Street and install NO PED signs with USE CROSSWALK plaques directing pedestrians to the 6th Street signalized crossing

- Repair broken pedestrian signals on the NW and NE corners of Walnut Street at 11th Street crossing the north leg
- Repair sidewalk domes and curb on the SW and SE corners of Walnut Street at 10th Street
- Repair the leaning signal pole on the SE corner of Walnut Street at 9th Street
- Adjust the signal phasing for Walnut Street at 4th Street to allow the pedestrians crossing the south leg to run concurrent with the EBL
- Consider a Leading Pedestrian Interval (LPI) or an exclusive pedestrian phase to eliminate the pedestrian / left-turn conflict at the following intersections:
 - Walnut Street at 2nd Street
 - Walnut Street at 4th Street
 - Walnut Street at 9th Street

- Add a stop line on Walnut Street at the 6th Street intersection
- Install TURNING VEHICLE YIELD TO PED signs (R10-15) at signalized intersections where RTOR / LTOR is permitted and/or where left turns are permitted
- As part of the Walnut Street proposed Road Diet, consider adding crosswalks across Walnut Street at 5th Street, 7th Street, and 15th Street with appropriate warning devices (i.e., RRFB's)
- Consider bumpouts at intersections between 8th Street and 14th Street to reduce crosswalk lengths
- Consider lighting improvements at deficient locations





Thank you!

**Questions
& Answers**

